

Appendix D - Sensor Clip Design



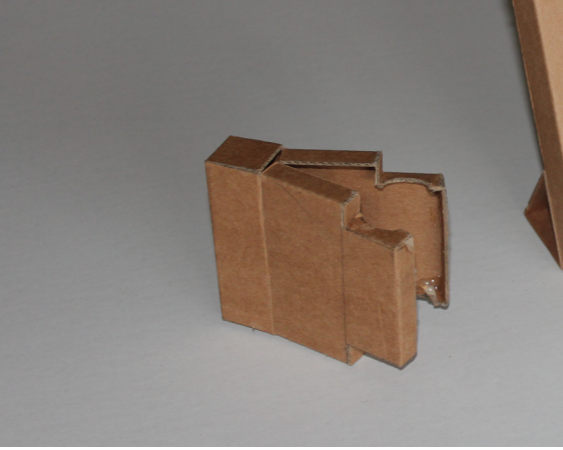
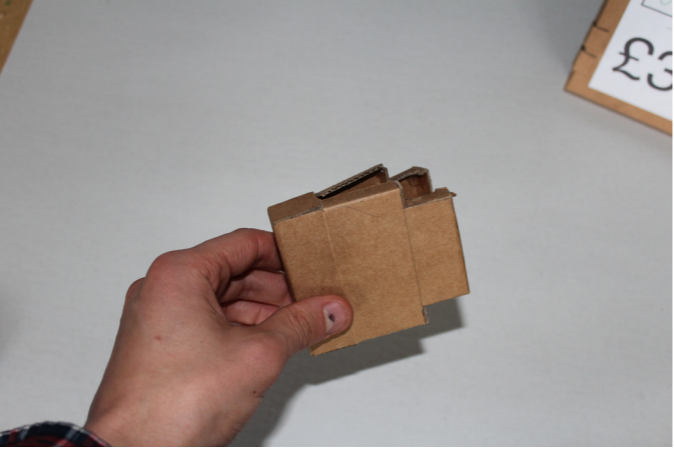
Sensor Clip

The first iteration looked to combine the sensor, transmitter and LED feedback into one compact product, therefore reducing the cognitive challenge involved in this part of the process. [7]

The size of the initial clip was very large. Therefore by reducing the size and end profile of the clip it became easier to manoeuvre between tight cables in the cupboard (Issue 3). The basic principle was a pincer action, locking around the cable when closed.

Country	Age Sample	Sex	Mean	SD	5th %ile	95th %ile	Sample	Source	Details
UK	65+	m	185.87	9.92	169.61	202.14		PeopleSize 1999	estimated
	65+	f	171.89	9.48	156.37	187.41		PeopleSize 1999	estimated
	65-74	m	180.00	9.00	165.00	195.00		PeopleSize 1999	estimated
	65-74	f	172.57	8.98	157.84	187.30		PeopleSize 1999	estimated
	65-80	m	185	9	170	200		Pheasant 1996	estimated
	65-80	f	170	9	155	185		Pheasant 1996	estimated
75+	75+	m	184.86	9.32	168.60	201.12		PeopleSize 1999	estimated
	75+	f	170.99	9.18	155.84	188.04		PeopleSize 1999	estimated
	85+	m	183.32	9.42	167.88	198.77		PeopleSize 1999	estimated
	85+	f	170.22	8.55	156.20	184.25		PeopleSize 1999	estimated
Canada	60-80	m	189	10	173	205	181	Desrosiers et al. 1995	healthy
	60-84	f	172	9	157	187	179	Desrosiers et al. 1995	healthy

Country	Age Sample	Sex	Mean	SD	5th %ile	95th %ile	Sample	Source
UK	65-80	m	85	5	75	90		Pheasant
	65-80	f	75	4	65	80		Pheasant
Japan	60-69	m	78.5	5.2	69.0	88.4	441	HQL 1997
	60-69	f	71.8	4.9	63.5	79.3	661	HQL 1997
	70-79	m	77.1	5.6	67.1	85.6	478	HQL 1997
	70-79	f	70.9	5.1	62.3	78.6	650	HQL 1997
	80-89	m	77.4	5.8	67.6	87.2	181	HQL 1997
	80-89	f	70.2	5.4	60.8	78.5	155	HQL 1997



Applied Data

The previous model was slightly small. Referring to anthropometric data [9] and applying this to my model [10] the size was slightly increased to fit comfortably in the hand and retain a measure of balance and control. This is important in an environment like a live electrical box.

The clip end of the product was reduced in size. This allows the user to relate to the “work end” of the product. This aids the mental process of use by reducing the number of decisions which need to be made by the user. The product therefore becomes more intuitive through this. [11]